

CONTAINS NO CBI



Form Approved
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EPA-OTS



000657873-

90-890000268

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Comprehensive Assessment Information Rule
REPORTING FORM

89 JUN 20 PM 2:48
910-01-20001 CONTROL
OFFICE

LEO FISHER
MANAGER OF R&D
CREST FOAM CORP.
100 CAROL PLACE
MOONACHIE, NJ 07074

When completed, send this form to:

Document Processing Center
Office of Toxic Substances, TS-790
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: _____

Document
Control Number: _____

Docket Number: _____

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been completed in response to the Federal Register Notice of..... [1][2] [2][8] [8][8]
CBI mo. day year

☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. [] [2][6][4][7][1] - [6][2] - [5]

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule

(ii) Name of mixture as listed in the rule

(iii) Trade name as listed in the rule

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule

CAS No. of chemical substance [] [] [] [] [] [] - [] [] - [] []

Name of chemical substance

NOT APPLICABLE

NOT APPLICABLE

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI Manufacturer 1

☐ Importer 2

Processor **3**

X/P manufacturer reporting for customer who is a processor 4

X/P processor reporting for customer who is a processor 5



Crest-Foam Corp.

Leo Fisher
Manager

Research and Development

☐ Mark (X) this box if you attach a contin

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI ☒ Yes ☐ Go to question 1.04
☐ No ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI Yes 1
☐ ☒ No 2

b. Check the appropriate box below:

☐ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s)

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI Trade name TDI 80 Type 1 (olin)

☐ Is the trade name product a mixture? Circle the appropriate response.

Yes 1

☒ No 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

LED FISHER
NAME

Leo Fisher
SIGNATURE

6-1-89
DATE SIGNED

Mgt R+D
TITLE

(201) 641 - 9030
TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

- 1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You CBI ☐ are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

NOT APPLICABLE

_____ NAME	_____ SIGNATURE	_____ DATE SIGNED
_____ TITLE	(_____) _____ TELEPHONE NO.	_____ DATE OF PREVIOUS SUBMISSION

- 1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI ☐ "My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

_____ NAME	_____ SIGNATURE	_____ DATE SIGNED
_____ TITLE	(_____) _____ TELEPHONE NO.	

☐ Mark (X) this box if you attach a continuation sheet.

1.09 Facility Identification

Dun & Bradstreet Number[00]-[153]-[9386]
EPA ID NumberNJ.D.[0003071199]
Employer ID Number[111897757]
Primary Standard Industrial Classification (SIC) Code[3086]
Other SIC Code[4459]
Other SIC Code[7380]
8142

Dun & Bradstreet Number()-()-()
Employer ID Number()-()-()

6

1.11 Parent Company Identification

CBI Name [L][E][G][G][E][T][T][][F][][P][L][A][T][T][Y][][][][][][][][][][][][][][]
[][] Address [D][N][E][][L][E][G][G][E][T][T][Y][][R][O][A][D][][][][][][][][][][][][][][]
Street
[C][A][R][R][I][H][A][G][E][][][][][][][][][][][][][][][][][][][]
City
[M][O] [6][4][8][3][6]--[][][][][]
State Zip
Dun & Bradstreet Number[0][0]-[7][1][4]-[0][0][6][4]

1.12 Technical Contact

[illegible]

1.13 This reporting year is from [0] [1] [8] [8] to [1] [2] [8] [3]
Mo. Year Mo. Year

☐ Mark (X) this box if you attach a continuation sheet.

NOT APPLICABLE

[illegible]

City

--

Date of Sale [] [] [] [] [] []
Mo. Day Year

Telephone Number[] [] [] - [] [] [] - [] [] [] []

NOT APPLICABLE

[illegible]

City

[][] [][][][][]--[][][][]
State Zip

Date of Purchase [] [] [] [] [] []
Mo. Day Year

Telephone Number[][]-[][]-[][][][]

8

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

<u>Classification</u>	<u>Quantity (kg/yr)</u>
Manufactured	_____
Imported	_____
Processed (include quantity repackaged)	<u>4,725,600</u>
Of that quantity manufactured or imported, report that quantity:	
In storage at the beginning of the reporting year	_____
For on-site use or processing	_____
For direct commercial distribution (including export)	_____
In storage at the end of the reporting year	_____
Of that quantity processed, report that quantity:	
In storage at the beginning of the reporting year	<u>80,000</u>
Processed as a reactant (chemical producer)	_____
Processed as a formulation component (mixture producer)	_____
Processed as an article component (article producer)	<u>4,725,600</u>
Repackaged (including export)	_____
In storage at the end of the reporting year	<u>80,000</u>

☐ Mark (X) this box if you attach a continuation sheet.

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

[]

NOT APPLICABLE

NOT APPLICABLE		
Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
Total		100%

10

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☐ Year ending [1][2] [8][7]
Mo. Year

Quantity manufactured kg

Quantity imported kg

Quantity processed 3,936,072 kg

Year ending [1][2] [8][6]
Mo. Year

Quantity manufactured kg

Quantity imported kg

Quantity processed 3,636,772 kg

Year ending [1][2] [8][5]
Mo. Year

Quantity manufactured kg

Quantity imported kg

Quantity processed 3,799,200 kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

NOT APPLICABLE

☐ Continuous process 1

Semicontinuous process 2

Batch process 3

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

- ☐ Continuous process 1
- ☒ Semicontinuous process 2
- ☐ Batch process 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

UNKNOWN

- ☐ Manufacturing capacity kg/yr
- ☐ Processing capacity kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

- ☒ NOT APPLICABLE
- | | Manufacturing
Quantity (kg) | Importing
Quantity (kg) | Processing
Quantity (kg) |
|--------------------|--------------------------------|----------------------------|-----------------------------|
| Amount of increase | _____ | _____ | _____ |
| Amount of decrease | _____ | _____ | _____ |

☐ Mark (X) this box if you attach a continuation sheet.

2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☐

Days/Year Average
Hours/Day

Process Type #1 (The process type involving the largest quantity of the listed substance.)

Manufactured

Processed

250 4

Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)

Manufactured

Processed

Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)

Manufactured

Processed

2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

☐

RESPONSE NOT REQUIRED FOR JDI

Maximum daily inventory kg

Average monthly inventory kg

☐ Mark (X) this box if you attach a continuation sheet.

- 2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

NOT APPLICABLE

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity¹</u>	<u>Concentration (%) (specify \pm % precision)</u>	<u>Source of Byproducts, Coproducts, or Impurities</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

¹Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

☐ Mark (X) this box if you attach a continuation sheet.

- 2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types ¹	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users ²
B	100	100	I

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

- 2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types ¹	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users ²
NOT APPLICABLE			

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

☐

a.	b.	c.	d.
Product Type ¹	Final Product's Physical Form ²	Average % Composition of Listed Substance in Final Product	Type of End-Users ³
NOT APPLICABLE			

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the final product's physical form:

A = Gas	F2 = Crystalline solid
B = Liquid	F3 = Granules
C = Aqueous solution	F4 = Other solid
D = Paste	G = Gel
E = Slurry	H = Other (specify) _____
F1 = Powder	

³Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the
CBI listed substance to off-site customers.

☐ Truck .. **NOT APPLICABLE** 1
Railcar 2
Barge, Vessel 3
Pipeline 4
Plane 5
Other (specify) _____ 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers
CBI or prepared by your customers during the reporting year for use under each category
of end use listed (i-iv).

☐ **NOT APPLICABLE**
Category of End Use

i. Industrial Products

Chemical or mixture kg/yr
Article kg/yr

ii. Commercial Products

Chemical or mixture kg/yr
Article kg/yr

iii. Consumer Products

Chemical or mixture kg/yr
Article kg/yr

iv. Other

Distribution (excluding export) kg/yr
Export kg/yr
Quantity of substance consumed as reactant kg/yr
Unknown customer uses kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

PART A GENERAL DATA

3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.
CBI The average price is the market value of the product that was traded for the listed substance.

☐

<u>Source of Supply</u>	<u>Quantity (kg)</u>	<u>Average Price (\$/kg)</u>
The listed substance was manufactured on-site.	_____	_____
The listed substance was transferred from a different company site.	_____	_____
The listed substance was purchased directly from a manufacturer or importer.	<u>4,725,577</u>	<u>2.00</u>
The listed substance was purchased from a distributor or repackager.	_____	_____
The listed substance was purchased from a mixture producer.	_____	_____

3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

CBI

☐

Truck	①
Railcar	2
Barge, Vessel	3
Pipeline	4
Plane	5
Other (specify) _____	6

☐ Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your
CBI facility.

☐

- Bags 1
Boxes 2
Free standing tank cylinders 3
Tank rail cars 4
Hopper cars 5
Tank trucks 6
Hopper trucks 7
Drums 8
Pipeline 9
Other (specify) 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders mmHg
Tank rail cars mmHg
Tank trucks 0 mmHg

☐ Mark (X) this box if you attach a continuation sheet.

PART B RAW MATERIAL IN THE FORM OF A MIXTURE

3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

CBI

☐

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify \pm % precision)</u>	<u>Amount Processed (kg/yr)</u>
NOT APPLICABLE			

☐ Mark (X) this box if you attach a continuation sheet.

PART C RAW MATERIAL VOLUME

3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify \pm % precision)
Class I chemical	4,725,577	100%
Class II chemical		
Polymer		

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A PHYSICAL/CHEMICAL DATA SUMMARY

- 4.01 Specify the percent purity for the three major¹ technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI

☐

	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	_____ % purity	_____ % purity	<u>99.9</u> % purity
Technical grade #2	_____ % purity	_____ % purity	_____ % purity
Technical grade #3	_____ % purity	_____ % purity	_____ % purity

¹Major = Greatest quantity of listed substance manufactured, imported or processed.

- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes 1

No 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company 1

Another source 2

☐ Mark (X) this box if you attach a continuation sheet.



OCEAN[®] Network
EMERGENCY PHONE 1-800-OLIN-911

MATERIAL SAFETY DATA

BEST COPY AVAILABLE

SECTION I - IDENTIFICATION

MSDS FILE 563

CHEMICAL NAME & SYNONYMS Toluene Diisocyanate 80-20		
CHEMICAL FAMILY isocyanate	FORMULA $C_9H_6N_2O_2$	PRODUCT TDI 80-20
DESCRIPTION Clear colorless to pale yellow liquid with sharp pungent odor		CAS NO. 26471-62-5

SECTION II - NORMAL HANDLING PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE Do not take internally. Do not get in eyes, on skin or clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapor. Protect against physical damage. Store in a cool, dry, well-ventilated place, away from areas where a fire hazard may be acute. Outside or detached storage is preferred. Blanket storage tanks with inert gas (nitrogen) or dry air. Separate from oxidizing materials.	
PROTECTIVE EQUIPMENT	VENTILATION REQUIREMENTS
EYES Goggles	As required to keep airborne concentrations below TLV
GLOVES Rubber, NBR or PVA	
OTHER Coveralls, impervious footwear	

SECTION III - HAZARDOUS INGREDIENTS

BASIC MATERIAL	OSHA PEL	LD50	LC50	SIGNIFICANT EFFECTS
Toluene-2,4-diisocyanate	0.02 ppm ceiling	5.8 g/kg (rat)	10 ppm/4 hrs (mouse)	Skin, eye, mucous membrane irritation. Pulmonary irritant. Allergic sensitization to skin and respiratory tract. May cause asthma attacks.
Toluene-2,6-diisocyanate	None established	No data	11 ppm/4 hrs-mouse	Irritation

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT 270°F COC METHOD	OSHA CLASSIFICATION Not Regulated (Ignitable)	FLAMMABLE EXPLOSIVE LIMIT	LOWER 0.9%	UPPER 9.5%
EXTINGUISHING MEDIA Water, carbon dioxide or dry chemical. Use water to keep the exposed containers cool.				
SPECIAL FIRE HAZARD & FIRE FIGHTING PROCEDURES Water spray should be used to cool fire exposed containers and/or to disperse unignited vapors. Use NIOSH/MSHA approved positive pressure self-contained breathing apparatus when any material is involved in a fire.				

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE 0.005 ppm TWA, 0.02 ppm STEL - 2.4 TDI (ACGIH 1986-87)
SYMPTOMS OF OVER EXPOSURE May cause irritation to eyes, throat, lungs, stomach, skin. Allergic sensitization to skin and respiratory tract. May cause asthma attacks
EMERGENCY FIRST-AID PROCEDURES
IN Immediately flush thoroughly with water for 15 minutes. Call a physician.
EYES Immediately flush thoroughly with water for 15 minutes. Call a physician.
INGESTION Immediately drink water to dilute.

25A

SECTION VI - TOXICOLOGY (PRODUCT)

ACUTE ORAL LD 50
5.8 g/kg (rats)
ACUTE DERMAL LD 50
> 2 g/kg (rabbits)
ACUTE INHALATION LC 50
10 ppm/4 hrs (mouse)

CARCINOGENICITY Oral Exposure-Positive NTP Bioassay
MUTAGENICITY Not known to be mutagenic
EYE IRRITATION Irritation and/or burns
PRIMARY SKIN IRRITATION
Irritation and/or burns

PRINCIPAL ROUTES OF ABSORPTION

Inhalation, dermal

EFFECTS OF ACUTE EXPOSURE May cause irritation to lungs, eyes, throat, stomach, skin. Allergic sensitization of skin and respiratory tract. Corneal injury may occur.

EFFECTS OF CHRONIC EXPOSURE Damage/allergic sensitization to lungs. Inhalation studies indicate not carcinogenic. Carcinogenic risk from industrial use is not significant.

SECTION VII - SPILL AND LEAKAGE PROCEDURES (CONTROL PROCEDURES)

ACTION FOR MATERIAL RELEASE OR SPILL

Wear NIOSH/MSHA approved positive pressure supplied air respirator. Follow OSHA regulations for respirator use (see 29 CFR 1910.134). Wear goggles, coveralls and impervious gloves and boots. Add dry non-combustible absorbent, sweep up material and place in an approved DOT container. Add an equal amount of neutralizing solution to the container (90-95% water, 5-10% ammonia). Clean remaining surfaces with neutralizing solution and add this to container. Isolate container in a well-ventilated place and do not seal for 24 hrs. Ammonia vapors may be generated until solution is neutralized. Wash all contaminated clothing before reuse. In the event of a large spill use the telephone number shown on the front of this sheet.

TRANSPORTATION EMERGENCY, CONTACT CHEMTREC 800-424-9300

WASTE DISPOSAL METHOD

Dispose of contaminated product, empty containers and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate Federal, State and local regulatory agencies to ascertain proper disposal procedures.

SECTION VIII - SHIPPING DATA

D.O.T. Toluene diisocyanate Poison B UN 2078

SECTION IX - REACTIVITY DATA

STABLE <input checked="" type="checkbox"/>	UNSTABLE <input type="checkbox"/>	AT _____ C _____ F	HAZARDOUS POLYMERIZATION	MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR <input type="checkbox"/>
CONDITIONS TO AVOID Water or incompatible materials in a closed system, excess heat INCOMPATIBILITY (MATERIAL TO AVOID) Acids, bases and alcohols, surface active materials HAZARDOUS DECOMPOSITION PRODUCTS Carbon monoxide, nitrogen oxides, hydrogen cyanide				

SECTION X - PHYSICAL DATA

MELTING POINT 53-56°F	VAPOR PRESSURE 0.1mmHg, 20°C	VOLATILES No data
BOILING POINT 484°F	SOLUBILITY IN WATER Insoluble	EVAPORATION RATE No data
SPECIFIC GRAVITY (H ₂ O=1) 1.22	PH No data	VAPOR DENSITY (AIR=1) 6.0

INFORMATION: FURNISHED TO

FURNISHED BY

DATE JUNE 19, 1987

Department of Environmental Hygiene and Toxicology
(203) 789-5436

Olin CORPORATION

120 Long Ridge Road, Stamford, Connecticut 06904

OCEAN® Network

EMERGENCY PHONE 1-800-OLIN-911

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes 1
 No 2

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

☐

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	3	4	5
Store	1	2	3	4	5
Dispose	1	2	3	4	5
Transport	1	2	3	4	5

☐ Mark (X) this box if you attach a continuation sheet.

- 4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles ≥ 10 microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

NOT APPLICABLE

<u>Physical State</u>		<u>Manufacture</u>	<u>Import</u>	<u>Process</u>	<u>Store</u>	<u>Dispose</u>	<u>Transport</u>
Dust	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Powder	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Fiber	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Aerosol	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 5 ENVIRONMENTAL FATE

PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

5.01 Indicate the rate constants for the following transformation processes.

- a. Photolysis: **UNKNOWN**
Absorption spectrum coefficient (peak) (1/M cm) at _____ nm
Reaction quantum yield, ϕ at _____ nm
Direct photolysis rate constant, k_p , at ... 1/hr _____ latitude
- b. Oxidation constants at 25°C: **UNKNOWN**
For 1O_2 (singlet oxygen), k_{ox} 1/M hr
For RO_2 (peroxy radical), k_{ox} 1/M hr
- c. Five-day biochemical oxygen demand, BOD_5 ... **UNKNOWN** mg/l
- d. Biotransformation rate constant: **UNKNOWN**
For bacterial transformation in water, k_b ... 1/hr
Specify culture
- e. Hydrolysis rate constants: **UNKNOWN**
For base-promoted process, k_b 1/M hr
For acid-promoted process, k_a 1/M hr
For neutral process, k_n 1/hr
- f. Chemical reduction rate (specify conditions) **UNKNOWN**
.....
- g. Other (such as spontaneous degradation) ... **UNKNOWN**
.....

☐ Mark (X) this box if you attach a continuation sheet.

PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

<u>Media</u>	<u>Half-life (specify units)</u>
UNKNOWN	
Groundwater	
Atmosphere	
Surface water	
Soil	

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

<u>CAS No.</u>	<u>Name</u>	<u>Half-life (specify units)</u>	<u>Media</u>
			in
			in
			in
			in

5.03 Specify the octanol-water partition coefficient, K_{ow} ... UNKNOWN at 25°C
Method of calculation or determination

5.04 Specify the soil-water partition coefficient, K_d UNKNOWN at 25°C
Soil type

5.05 Specify the organic carbon-water partition coefficient, K_{oc} UNKNOWN at 25°C

5.06 Specify the Henry's Law Constant, H UNKNOWN atm-m³/mole

☐ Mark (X) this box if you attach a continuation sheet.

5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

Bioconcentration Factor

Species

Test¹

~~UNKNOWN~~

¹Use the following codes to designate the type of test:

F = Flowthrough

S = Static

☐ Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of the listed substance sold or transferred in bulk during the reporting year.

☐

NOT APPLICABLE		
Market	Quantity Sold or Transferred (kg/yr)	Total Sales Value (\$/yr)
Retail sales		
Distribution -- Wholesalers		
Distribution -- Retailers		
Intra-company transfer		
Repackagers		
Mixture producers		
Article producers		
Other chemical manufacturers or processors		
Exporters		
Other (specify)		

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.

CBI

☐

Substitute	Cost (\$/kg)
NONE	

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

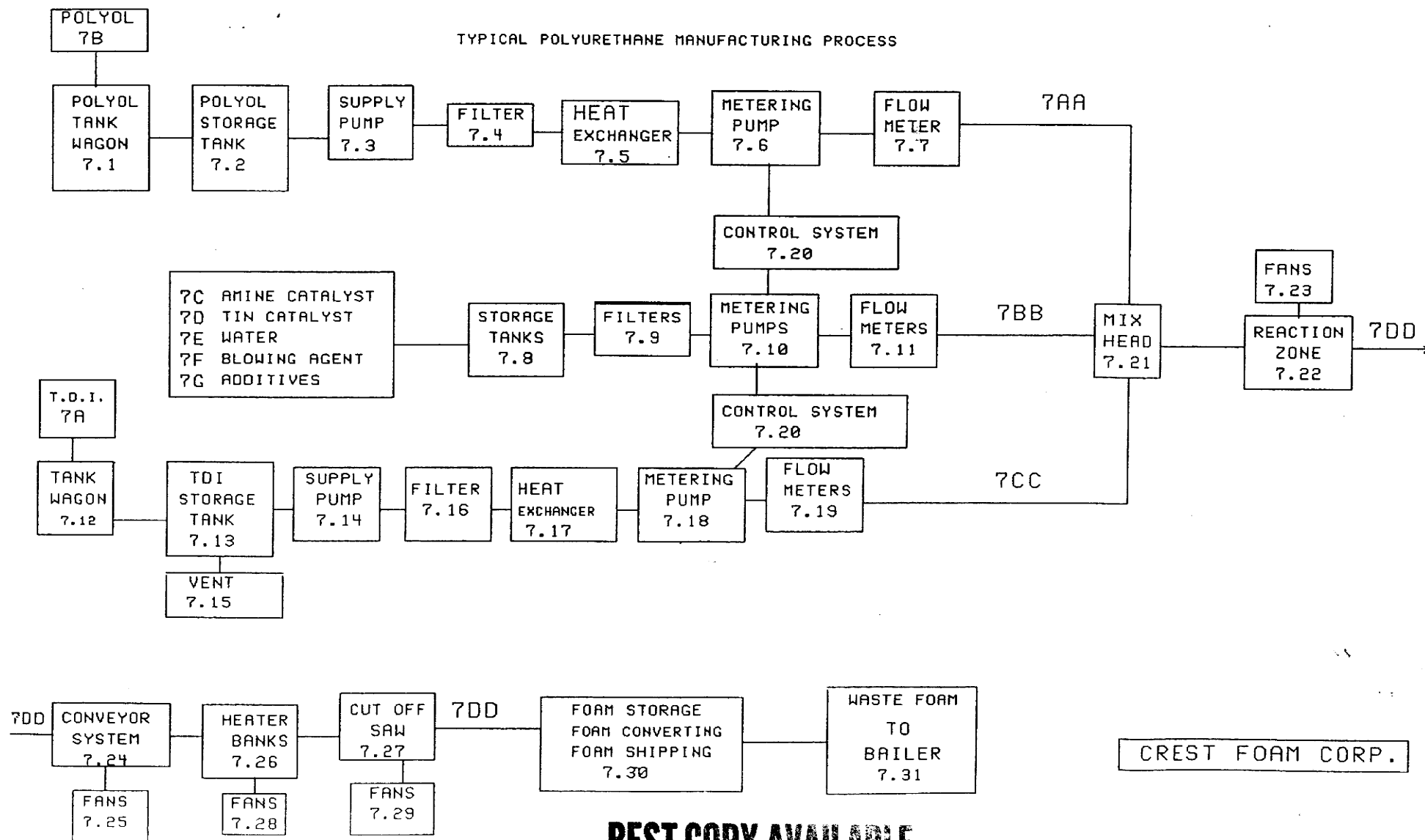
7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

☐ Process type MANUFACTURE OF Flexible Polyurethane Foam

☒ Mark (X) this box if you attach a continuation sheet.

TYPICAL POLYURETHANE MANUFACTURING PROCESS



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7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

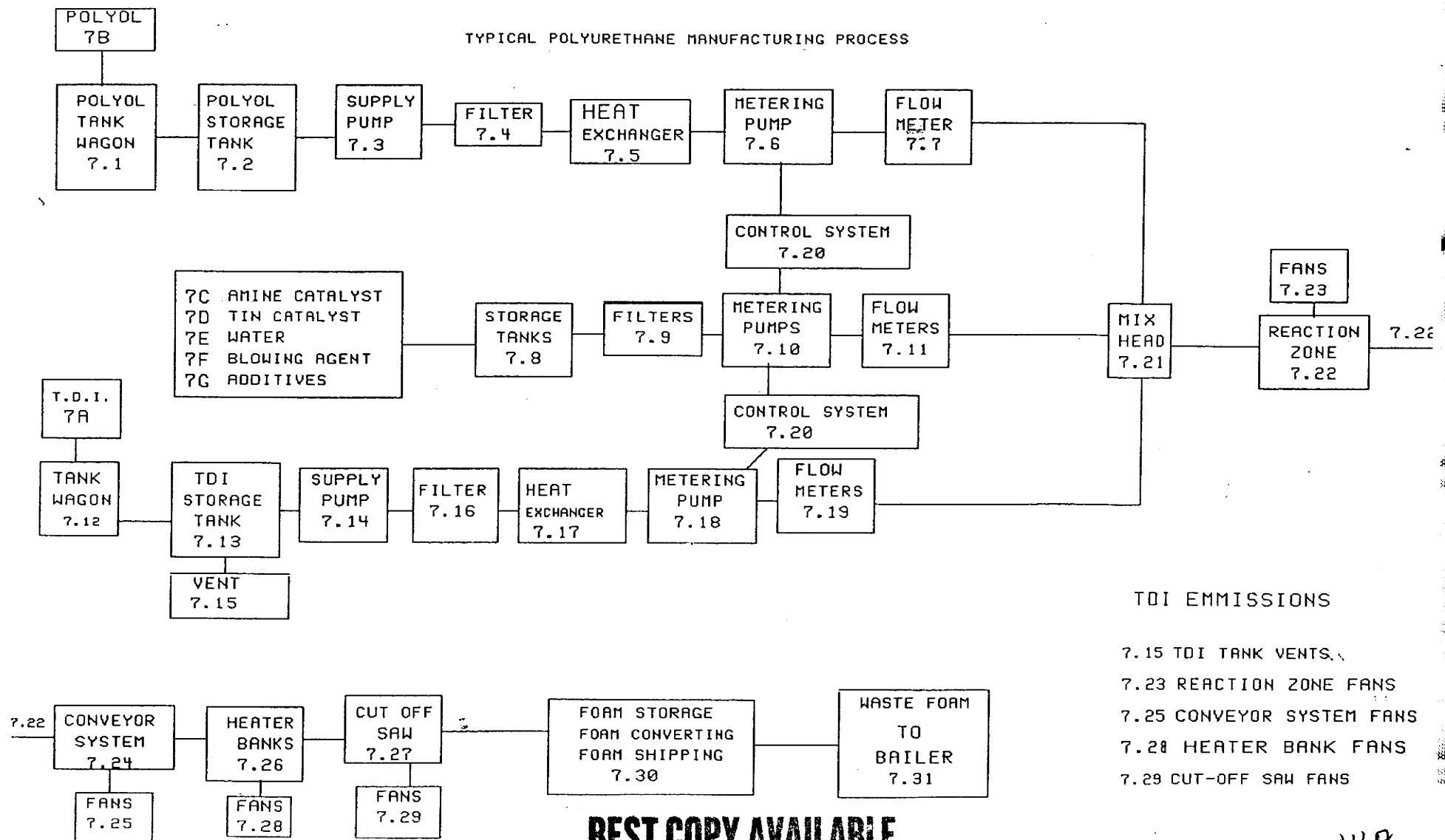
CBI

☐ Process type MANUFACTURE OF Polyurethane Foam

☒ Mark (X) this box if you attach a continuation sheet.

44A

TYPICAL POLYURETHANE MANUFACTURING PROCESS



TDI EMISSIONS

- 7.15 TDI TANK VENTS,
- 7.23 REACTION ZONE FANS
- 7.25 CONVEYOR SYSTEM FANS
- 7.28 HEATER BANK FANS
- 7.29 CUT-OFF SAW FANS

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44A

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type MANUFACTURE OF Polyurethane Foam

<u>Unit Operation ID Number</u>	<u>Typical Equipment Type</u>	<u>Operating Temperature Range (°C)</u>	<u>Operating Pressure Range (mm Hg)</u>	<u>Vessel Composition</u>
<u>7.14</u>	<u>Seal-less Pump</u>	<u>20</u>	<u>2280</u>	<u>steel</u>
<u>7.16</u>	<u>Basket Filter</u>	<u>20</u>	<u>2280</u>	<u>steel</u>
<u>7.17</u>	<u>Heat Exchanger</u>	<u>20</u>	<u>2280</u>	<u>steel</u>
<u>7.18</u>	<u>Metering Pump</u>	<u>20</u>	<u>51,700</u>	<u>STEEL</u>
<u>7.22</u>	<u>TROUGH, Fall Plates</u>	<u>< 100</u>	<u>Atmospheric</u>	<u>steel</u>
<u>7.27</u>	<u>Cut-OFF SAW</u>	<u>Ambient</u>	<u>N/A</u>	<u>steel</u>
<u>7.21</u>	<u>Mix Head</u>	<u>20</u>	<u>1000</u>	<u>steel</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type MANUFACTURE OF Polyurethane Foams

Process Stream ID Code	Process Stream Description	Physical State ¹	Stream Flow (kg/yr)
<u>7A</u>	<u>T. D. I.</u>	<u>OL</u>	<u>4,725,577</u>
<u>7B</u>	<u>Polyol</u>	<u>OL</u>	<u>7,636,363</u>
<u>7C</u>	<u>Amine Catalyst</u>	<u>OL</u>	<u>34,090</u>
<u>7D</u>	<u>Tin Catalyst</u>	<u>OL</u>	<u>102,272</u>
<u>7E</u>	<u>WATER</u>	<u>AL</u>	<u>545,454</u>
<u>7F</u>	<u>Blowing Agent - Freon-11</u>	<u>OL</u>	<u>204,545</u>
<u>7G</u>	<u>Additives</u>	<u>OL</u>	<u>681,818</u>

¹Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure)
 SO = Solid
 SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☐ Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s).
If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

☐ Process type MANUFACTURE OF Polyurethane Foam

a.	b.	c.	d.	e.
Process Stream ID Code	Known Compounds ¹	Concentrations ^{2,3} (% or ppm)	Other Expected Compounds	Estimated Concentrations (% or ppm)
<u>7AA</u>	<u>Polyol</u>	<u>100%</u>	<u>NOT APPLICABLE</u>	
<u>7BB</u>	<u>Amine Catalyst</u>	<u>100%</u>	<u>NOT APPLICABLE</u>	
	<u>Tin Catalyst</u>			
	<u>Water, Additives</u>			
	<u>Blowing Agent</u>			
<u>7CC</u>	<u>TDI</u>	<u>99.9%</u>	<u>Hydrolyzable Chloride</u>	<u>0.1%</u>
<u>7DD</u>	<u>Polyurethane Foam</u>	<u>100</u>	<u>NOT APPLICABLE</u>	

7.06 continued below

☐ Mark (X) this box if you attach a continuation sheet.

7.06 (continued)

¹For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
<u>1</u>	<u>FIRE RETARDENTS</u>	<u>NOT APPLICABLE</u>
<u>2</u>	<u>PIGMENTS</u>	<u>NOT APPLICABLE</u>
<u>3</u>		
<u>4</u>		
<u>5</u>		

²Use the following codes to designate how the concentration was determined:

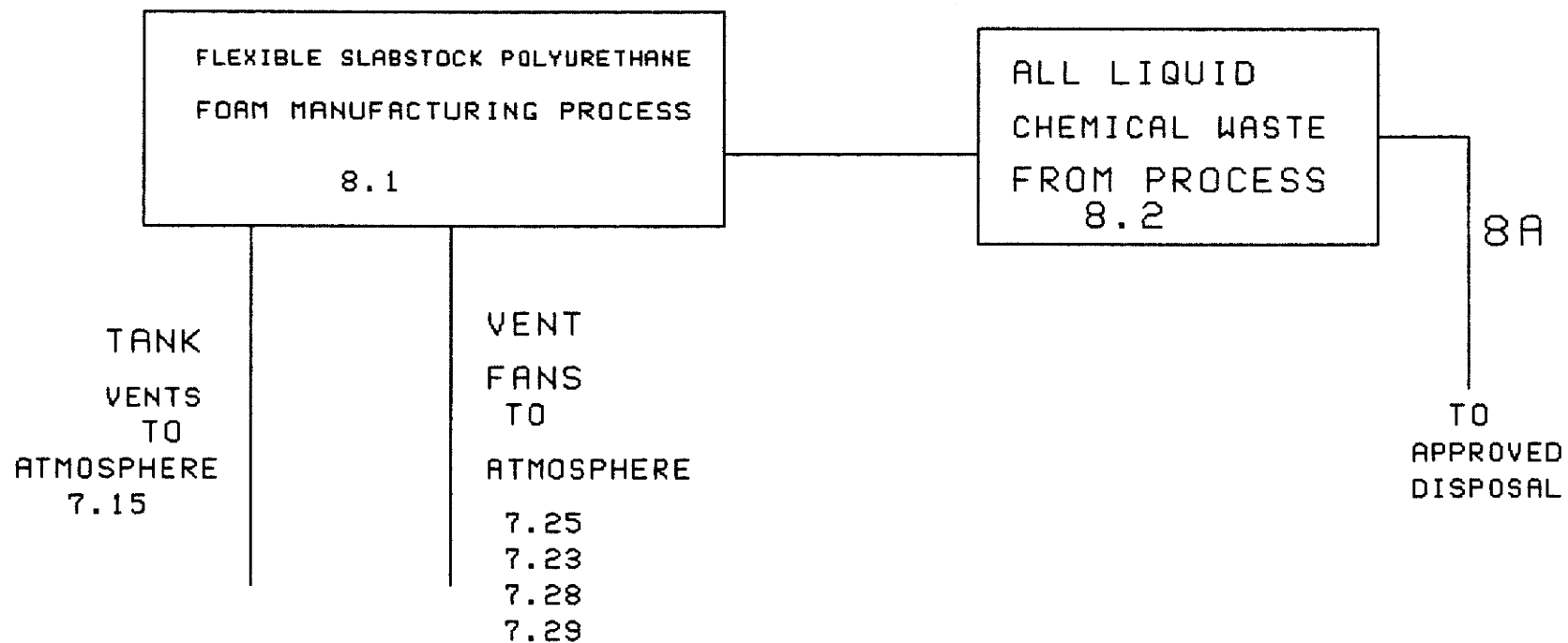
A = Analytical result
E = Engineering judgement/calculation

³Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

☐ Mark (X) this box if you attach a continuation sheet.

RESIDUAL TREATMENT FLOW DIAGRAM



PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

☐ Process type MANUFACTURE OF Polyurethane Foam

☒ Mark (X) this box if you attach a continuation sheet.

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

a.	b.	c.	d.	e.	f.	g.
Stream ID Code	Type of Hazardous Waste ¹	Physical State of Residual ²	Known Compounds ³	Concentra- tions (% or ppm) ^{4, 5, 6}	Other Expected Compounds	Estimated Concen- trations (% or ppm)

NOT APPLICABLE

NOT APPLICABLE

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

¹Use the following codes to designate the type of hazardous waste:

I = Ignitable
C = Corrosive
R = Reactive
E = EP toxic
T = Toxic
H = Acutely hazardous

²Use the following codes to designate the physical state of the residual:

GC = Gas (condensable at ambient temperature and pressure)
GU = Gas (uncondensable at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

8.05 continued below

NOT APPLICABLE

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

³For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
<u>1</u>	NOT APPLICABLE	
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		

⁴Use the following codes to designate how the concentration was determined:

A = Analytical result

E = Engineering judgement/calculation

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

⁵Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

⁶Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

<u>Code</u>	<u>Method</u>	<u>Detection Limit</u> <u>(± ug/l)</u>
<u>1</u>	<u>NOT APPLICABLE</u>	<u></u>
<u>2</u>	<u></u>	<u></u>
<u>3</u>	<u></u>	<u></u>
<u>4</u>	<u></u>	<u></u>
<u>5</u>	<u></u>	<u></u>
<u>6</u>	<u></u>	<u></u>

☐ Mark (X) this box if you attach a continuation sheet.

CBI

NOT APPLICABLE

[] Process type

NOT APPLICABLE

²Use the codes provided in Exhibit 8-2 to designate the management methods

☐ Mark (X) this box if you attach a continuation sheet.

8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1						
2	RESPONSE NOT REQUIRED FOR TDI					
3						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Air Pollution Control Device ¹	Types of Emissions Data Available
1	NOT APPLICABLE	
2		
3		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)
 E = Electrostatic precipitator
 O = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

☐

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	X	X	1965	24
Age at hire	X	X	1965	24
Work history of individual before employment at your facility	X	X	1965	24
Sex	X	X	1977	12
Race	X	X	1977	12
Job titles	X	X	1965	24
Start date for each job title	No	No		
End date for each job title	No	No		
Work area industrial hygiene monitoring data	X	X	1979	10
Personal employee monitoring data	NOT APPLICABLE			
Employee medical history	X	X	1965	24
Employee smoking history	No	No	—	—
Accident history	X	X	1974	15
Retirement date	X	X	1980	9
Termination date	X	X	1965	24
Vital status of retirees	No	No	—	—
Cause of death data	No	No	—	—

☐ Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hours</u>
Manufacture of the listed substance	Enclosed	NOT APPLICABLE		
	Controlled Release	NOT APPLICABLE		
	Open	NOT APPLICABLE		
On-site use as reactant	Enclosed	NOT APPLICABLE		
	Controlled Release	4,725,600 KG	15	28,200
	Open	NOT APPLICABLE		
On-site use as nonreactant	Enclosed	NOT APPLICABLE		
	Controlled Release	NOT APPLICABLE		
	Open	NOT APPLICABLE		
On-site preparation of products	Enclosed	NOT APPLICABLE		
	Controlled Release	NOT APPLICABLE		
	Open	NOT APPLICABLE		

☐ Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

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☐

Labor Category

Descriptive Job Title

A

FOAMLINE ASSISTANT

B

DEPARTMENT HEAD - FOAMING

C

CUT-OFF SAW OPERATOR

D

FOAMLINE OPERATOR

E

CHEMICAL HANDLER

F

G

H

I

J

☐ Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

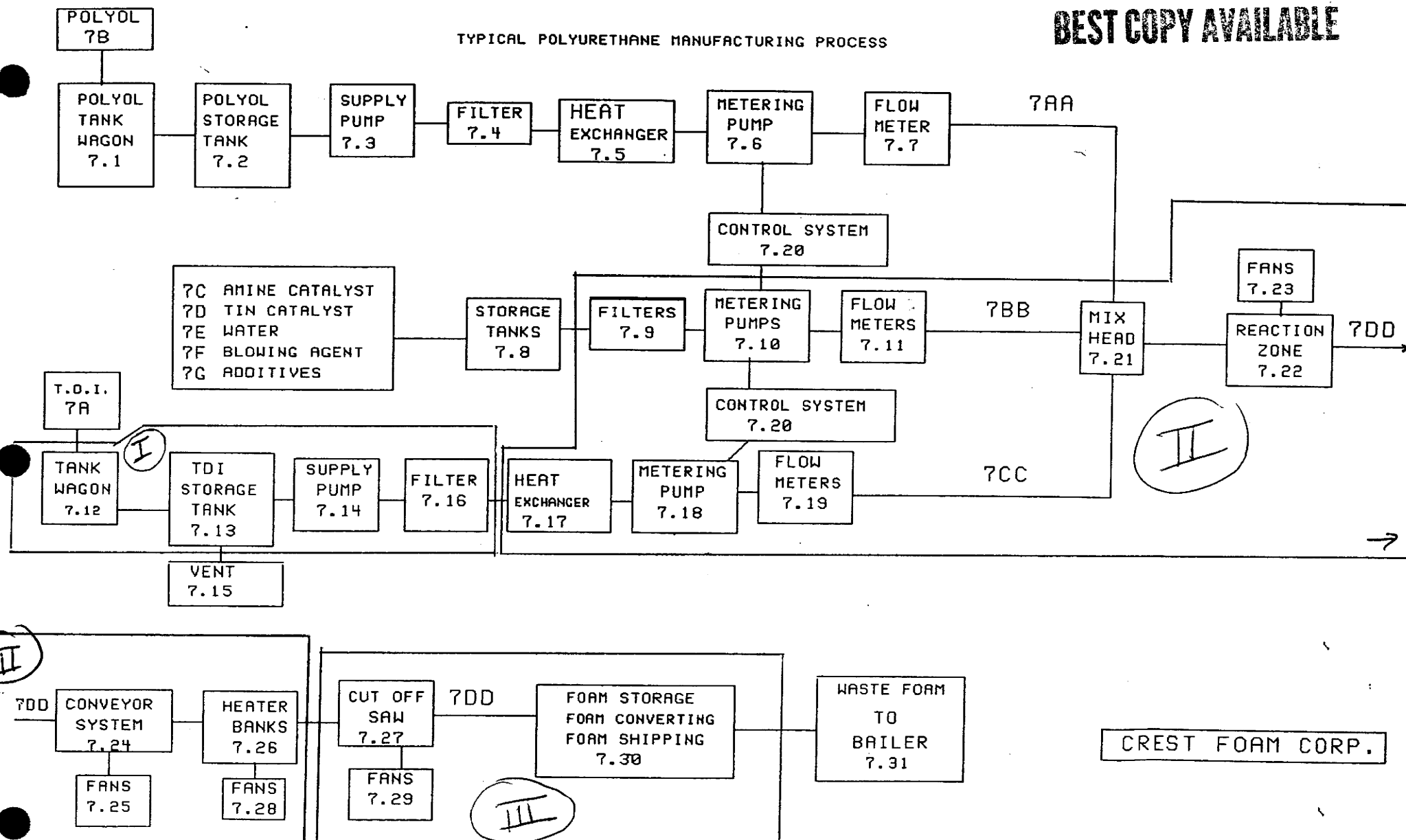
CBI

☐ Process type

☐ Mark (X) this box if you attach a continuation sheet.

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TYPICAL POLYURETHANE MANUFACTURING PROCESS



CREST FOAM CORP.

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type MANUFACTURE OF URETHANE FOAM - FLEXIBLE

<u>Work Area ID</u>	<u>Description of Work Areas and Worker Activities</u>
1	<u>I RECEIVING + STORAGE - CHEMICALS</u>
2	<u>II MACHINE CONTROL + PRODUCTION</u>
3	<u>III CUT OFF SAW + STORAGE - FOAM</u>
4	
5	
6	
7	
8	
9	
10	

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type MANUFACTURER OF URETHANE FOAM-FLEXIBLE

Work area I

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
<u>E</u>	<u>5</u>	<u>WORK ATMOSPHERE</u>	<u>GU</u>	<u>D</u>	<u>235</u>

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)
 SO = Solid

SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
 B = Greater than 15 minutes, but not exceeding 1 hour
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours
 E = Greater than 4 hours, but not exceeding 8 hours
 F = Greater than 8 hours

☒ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type MANUFACTURE OF METHANE FOAM - FLEXIBLE

Work area II

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
<u>D</u>	<u>2</u>	<u>WORK ATMOSPHERE</u>	<u>GU</u>	<u>D</u>	<u>235</u>
<u>A</u>	<u>3</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>B</u>	<u>2</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)
 SO = Solid

SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
 B = Greater than 15 minutes, but not exceeding 1 hour
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours
 E = Greater than 4 hours, but not exceeding 8 hours
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MANUFACTURE OF URETHANE FOAM - FLEXIBLE

Work area III

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
<u>C</u>	<u>3</u>	<u>Work Atmosphere</u>	<u>GU</u>	<u>D</u>	<u>235</u>

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)
 SO = Solid

SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
 B = Greater than 15 minutes, but not exceeding 1 hour
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours
 E = Greater than 4 hours, but not exceeding 8 hours
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

CBI

1

I

Labor Category

8-hour TWA Exposure Level
(ppm, mg/m³, other-specify)

15-Minute Peak Exposure Level
(ppm, mg/m³, other-specify)

E

NOT APPLICABLE

 < 0.02

[文]

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MANUFACTURE OF URETHANE FOAM - FLEXIBLE

Work area II

Labor Category	8-hour TWA Exposure Level (ppm, mg/m ³ , other-specify)	15-Minute Peak Exposure Level (ppm, mg/m ³ , other-specify)
<u>D</u>	<u>NOT APPLICABLE</u>	<u>< 0.02</u>
<u>A</u>	<u>NOT APPLICABLE</u>	<u>< 0.02</u>
<u>B</u>	<u>NOT APPLICABLE</u>	<u>< 0.02</u>

☐ Mark (X) this box if you attach a continuation sheet.

CBI

[]

III

Labor Category

~~NOT APPLICABLE~~

< 0.02

□

PART B WORK PLACE MONITORING PROGRAM

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI

ALL WORK AREAS

[]

Sample/Test	↓ Work Area ID	Testing Frequency (per year)	Number of Samples (per test)	Who Samples ¹	Analyzed In-House (Y/N)	Number of Years Records Maintained
Personal breathing zone	I, II, III	3	1	D	Y	10
General work area (air)	I, II, III	3	1	D	Y	10
Wipe samples	NOT APPLICABLE					
Adhesive patches	NOT APPLICABLE					
Blood samples	I, II, III	1	1	E	N	11
Urine samples	I, II, III	1	1	E	N	11
Respiratory samples	NOT APPLICABLE					
Allergy tests	NOT APPLICABLE					
Other (specify)						
Other (specify)						
PULMONARY FUNCTION	I, II, III	1	1	E	N	11
Other (specify)						
X-Ray	I, II, III	1/3	1	E	N	11

¹Use the following codes to designate who takes the monitoring samples:

- A = Plant industrial hygienist
- B = Insurance carrier
- C = OSHA consultant
- D = Other (specify) LAB TECH.
- E = Doctor

[X] Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

Sample Type	Sampling and Analytical Methodology
PERSONAL BREATHING (AIR)	COLOR CHANGE BASED ON MARCOLI METHOD
GENERAL WORK AREA (AIR)	" " " " " "
BLOOD SAMPLES	OUTSIDE MEDICAL FACILITY
URINE	" " " "
PULMONARY FUNCTION	" " " "
X-RAY	" " " "

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

Equipment Type ¹	Detection Limit ²	Manufacturer	Averaging Time (hr)	Model Number
D	A	MDA SCIENTIFIC INC.	4	4100

¹Use the following codes to designate personal air monitoring equipment types:

A = Passive dosimeter

B = Detector tube

C = Charcoal filtration tube with pump

D = Other (specify) MDA - MONITOR/RECORDER, SERIES 4100

Use the following codes to designate ambient air monitoring equipment types:

E = Stationary monitors located within work area

F = Stationary monitors located within facility

G = Stationary monitors located at plant boundary

H = Mobile monitoring equipment (specify) _____

I = Other (specify) _____

²Use the following codes to designate detection limit units:

A = ppm

B = Fibers/cubic centimeter (f/cc)

C = Micrograms/cubic meter (μm^3)

☐ Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

☐

Test Description

Frequency
(weekly, monthly, yearly, etc.)

NOT APPLICABLE

NOT APPLICABLE

☐ Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MANUFACTURE of URETHANE FOAM - FLEXIBLE
Work area I, II, III

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>X</u>	<u>WHEN PURCHASED</u>	<u>N</u>	<u>N/A</u>
General dilution	<u>NOT</u>	<u>APPLICABLE</u>	<u>—</u>	<u>—</u>
Other (specify) _____	<u>NOT</u>	<u>APPLICABLE</u>	<u>—</u>	<u>—</u>
Vessel emission controls	<u>NO</u>	<u>—</u>	<u>—</u>	<u>—</u>
Mechanical loading or packaging equipment	<u>NO</u>	<u>—</u>	<u>—</u>	<u>—</u>
Other (specify) _____	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

☐ Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MANUFACTURE OF URETHANE FOAM - FLEXIBLE

Work area I, II, III

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
<u>NOTHING MAJOR IN LAST 3 YEARS</u>	<u>NOT APPLICABLE</u>
_____	_____
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[] Process type MANUFACTURE OF URETHANE FOAM- FLEXIBLE

Work area

Equipment Types	WORK AREA I Wear or Use (Y/N)	II	III
Respirators	<u>X</u>		
Safety goggles/glasses	<u>X</u>	<u>Y</u>	<u>X</u>
Face shields	<u>X</u>		
Coveralls	<u>X</u>		
Bib aprons	<u>Y</u>		
Chemical-resistant gloves	<u>Y</u>	<u>Y</u>	<u>Y</u>
Other (specify)			
<u>SAFETY BOOTS</u>	<u>X</u>		

[] Mark (X) this box if you attach a continuation sheet.

9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type MANUFACTURE OF URETHANE FOAM - FLEXIBLE

Work Area	Respirator Type	Average Usage ¹	Fit Tested (Y/N)	Type of Fit Test ²	Frequency of Fit Tests (per year)
<u>I</u>					
<u>II</u>	<u>POSITIVE PRESSURE BREATHING AIR</u>	<u>A</u>	<u>Y</u>	<u>QL</u>	<u>DAILY</u>
<u>III</u>					

¹Use the following codes to designate average usage:

A = Daily
 B = Weekly
 C = Monthly
 D = Once a year
 E = Other (specify) _____

²Use the following codes to designate the type of fit test:

QL = Qualitative
 QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type MANUFACTURE OF URETHANE FOAM - FLEXIBLE

Work area I, II, III

RESTRICTED ADMITTANCE

WORKER TRAINING

MONITOR AIR

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type SAME

Work area I, II, III

<u>Housekeeping Tasks</u>	<u>Less Than Once Per Day</u>	<u>1-2 Times Per Day</u>	<u>3-4 Times Per Day</u>	<u>More Than 4 Times Per Day</u>
Sweeping	_____	_____	_____	_____
Vacuuming	_____	_____	_____	_____
Water flushing of floors	_____	_____	_____	_____
Other (specify) <u>NO ROUTINE LEAKS</u>	<u>NOT APPLICABLE</u>			

☐

Mark (X) this box if you attach a continuation sheet.

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes 1

No 2

Emergency exposure

Yes 1

No 2

If yes, where are copies of the plan maintained?

Routine exposure: Within Emergency Response Procedure for TCRA

Emergency exposure: _____

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes 1

No 2

If yes, where are copies of the plan maintained? SEE ABOVE "TCPA-N.S."

DOCUMENTS MAINTAINED IN OFFICES OF PROCESS ENGINEER, DEPT. HEADS, DIRECTOR of MFG.

Yes 1

No 2

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist 1

Insurance carrier 2

OSHA consultant

Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 10 ENVIRONMENTAL RELEASE

General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

PART A GENERAL INFORMATION

10.01 Where is your facility located? Circle all appropriate responses.

CBI

- ☐ Industrial area ①
- Urban area 2
- Residential area ③
- Agricultural area 4
- Rural area 5
- Adjacent to a park or a recreational area 6
- Within 1 mile of a navigable waterway 7
- Within 1 mile of a school, university, hospital, or nursing home facility 8
- Within 1 mile of a non-navigable waterway 9
- Other (specify) _____ 10

☐ Mark (X) this box if you attach a continuation sheet.

10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude 40 ° 51 ' N "

Longitude 74 ° 03 ' W "

UTM coordinates Zone UNKNOWN, Northing _____, Easting _____

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation inches/year

Predominant wind direction RESPONSE NOT REQUIRED FOR JDI

10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater RESPONSE NOT REQUIRED FOR JDI meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of Y, N, and NA.)

CBI

☐

On-Site Activity	Environmental Release		
	Air	Water	Land
Manufacturing	<u>Y</u>	<u>N</u>	<u>N</u>
Importing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Processing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Otherwise used	<u>NA</u>	<u>NA</u>	<u>NA</u>
Product or residual storage	<u>Y</u>	<u>N</u>	<u>N</u>
Disposal	<u>NA</u>	<u>NA</u>	<u>NA</u>
Transport	<u>NA</u>	<u>NA</u>	<u>NA</u>

☐ Mark (X) this box if you attach a continuation sheet.

10.06 Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

☐

Quantity discharged to the air	<u>68.2 *</u>	kg/yr ± <u>10</u> %
Quantity discharged in wastewaters	<u>0</u>	kg/yr ± <u> </u> %
Quantity managed as other waste in on-site treatment, storage, or disposal units	<u>0</u>	kg/yr ± <u> </u> %
Quantity managed as other waste in off-site treatment, storage, or disposal units	<u>0</u>	kg/yr ± <u> </u> %

* Based on a measured amount of 0.15 pounds per hour.

$$\frac{(0.15 \text{ \# / hr}) (4 \text{ hrs. / day}) (250 \frac{\text{days}}{\text{year}})}{2.2 \text{ Kg / \#}}$$

☐ Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐ Process type MANUFACTURE OF Polyurethane Foams

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>
<u>NOT APPLICABLE</u>	<u>No controls are used</u>	

☐ Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

- 10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI

☐

Process type MANUFACTURE OF Polyurethane Foam

Point Source
ID Code

Description of Emission Point Source

7.15

T.O.I STORAGE TANK Vent

7.23

Reaction Zone Vent FAN

7.25

CONVEYOR SYSTEM VENT FAN

7.28

Heater Bank Vent Fan

7.29

Cut-OFF SAW VENT FAN

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics -- Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

<input type="checkbox"/>	Point Source ID Code	Physical State ¹	Average Emissions (kg/day)	Frequency ² (days/yr)	Duration ³ (min/day)	Average Emission Factor ⁴	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
	7.15	V	UK	250	120	NA	UK	250	180
	7.23	Y	.145	250	240	NA	.15	250	360
	7.25	V	.072	250	240	NA	.08	250	360
	7.28	V	.236	250	240	NA	.04	250	360
	7.29	V	.018	250	240	NA	.02	250	360

¹Use the following codes to designate physical state at the point of release:

G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) _____

²Frequency of emission at any level of emission

³Duration of emission at any level of emission

⁴Average Emission Factor — Provide estimated (\pm 25 percent) emission factor (kg of emission per kg of production of listed substance)

10.11 Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

☐

Point Source ID Code	Stack Height(m)	Stack Inner Diameter (at outlet) (m)	Exhaust Temperature (°C)	Emission Exit Velocity (m/sec)	Building Height(m) ¹	Building Width(m) ²	Vent Type ³
7.15	10	.05	20	1.0	10	100	V
7.23	12	.65	20	4.2	10	100	V
7.25	12	.65	20	4.2	10	100	V
7.28	10	.65	20	4.6	10	100	H
7.29	10	.65	20	3.7	10	100	H

¹Height of attached or adjacent building

²Width of attached or adjacent building

³Use the following codes to designate vent type:

H = Horizontal

V = Vertical

☐ Mark (X) this box if you attach a continuation sheet.

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09.
Photocopy this question and complete it separately for each emission point source.

CBI

☐

NOT APPLICABLE.

Point source ID code

Size Range (microns)

Mass Fraction (% \pm % precision)

< 1

≥ 1 to < 10

≥ 10 to < 30

≥ 30 to < 50

≥ 50 to < 100

≥ 100 to < 500

≥ 500

Total = 100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C FUGITIVE EMISSIONS

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type MANUFACTURE OF POLYURETHANE FOAMS
 Percentage of time per year that the listed substance is exposed to this process type 100 %

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					Greater than 99%
	Less than 5%	5-10%	11-25%	26-75%	76-99%	
Pump seals ¹						
Packed						NA
Mechanical						NA
Double mechanical ²						10
Compressor seals ¹						NA
Flanges						52
Valves						
Gas ³						NA
Liquid						160
Pressure relief devices ⁴ (Gas or vapor only)	4					
Sample connections						
Gas						NA
Liquid						NA
Open-ended lines ⁵ (e.g., purge, vent)						
Gas						NA
Liquid						30

¹List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐ Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

²If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

³Conditions existing in the valve during normal operation

⁴Report all pressure relief devices in service, including those equipped with control devices

⁵Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

☐

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel ¹	c. Control Device	d. Estimated Control Efficiency ²
4	100	Rupture Disk	100

¹Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

²The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type MANUFACTURE OF Polyurethane Foam

Equipment Type	Leak Detection	Detection Device ¹	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
	Concentration				
	(ppm or mg/m ³)				
	Measured at				
	Inches				
	from Source				
Pump seals	NOT APPLICABLE				
Packed					
Mechanical					
Double mechanical					
Compressor seals					
Flanges					
Valves					
Gas					
Liquid					
Pressure relief devices (gas or vapor only)					
Sample connections					
Gas					
Liquid					
Open-ended lines					
Gas					
Liquid					

¹Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

Vessel Type ¹	Floating Roof ² Seals	Composition of Stored Materials ³	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Operating Vessel Volume (l)	Vessel Emission Controls ⁴	Design Flow Rate ⁵	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate ⁶
* - P(30PSI)	NA	100	UK	32	60	2.75	2.85	18,900	NA	NA	5.1	NA	NA
H-P(30)	NA	100	UK	32	60	2.75	2.85	18,900	NA	NA	5.1	NA	NA
H	NA	100	UK	32	60	2.43	6.1	28,400	NA	NA	5.1	NA	NA

¹Use the following codes to designate vessel type:

F = Fixed roof
 CIF = Contact internal floating roof
 NCIF = Noncontact internal floating roof
 EFR = External floating roof
 P = Pressure vessel (indicate pressure rating)
 H = Horizontal
 U = Underground

²Use the following codes to designate floating roof seals:

MS1 = Mechanical shoe, primary
 MS2 = Shoe-mounted secondary
 MS2R = Rim-mounted, secondary
 LM1 = Liquid-mounted resilient filled seal, primary
 LM2 = Rim-mounted shield
 LMW = Weather shield
 VM1 = Vapor mounted resilient filled seal, primary
 VM2 = Rim-mounted secondary
 VMW = Weather shield

³Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

⁴Other than floating roofs

⁵Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

⁶Use the following codes to designate basis for estimate of control efficiency:

C = Calculations
 S = Sampling

* - 6 tanks of this description

PART E NON-ROUTINE RELEASES

10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

Release	Date Started	Time (am/pm)	Date Stopped	Time (am/pm)
1	2-23-82	UK	2-23-82	UK
2				
3				
4				
5				
6				

* Approximately 2-3 gal. spill, stopped almost immediately

10.24 Specify the weather conditions at the time of each release.

Release	Wind Speed (km/hr)	Wind Direction	Humidity (%)	Temperature (°C)	Precipitation (Y/N)
1					
2	RESPONSE NOT REQUIRED FOR TDI				
3					
4					
5					
6					

☐ Mark (X) this box if you attach a continuation sheet.

APPENDIX I: List of Continuation Sheets

Attach continuation sheets for sections of this form and optional information after this page. In column 1, clearly identify the continuation sheet by listing the question number to which it relates. In column 2, enter the inclusive page numbers of the continuation sheet for each question number.

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.